

REMARKS

The Office action of September 8, 2008, has been carefully considered.

The allowability of Claims 5-14 and 16 has been noted.

Objection has been raised to Claim 8, and it is noted that Claims 1-16 have now been rewritten as new Claims 17-32, in proper form for U.S. practice. Further, the specification has been amended to add subject matter headings.

Claims 1-4 and 15 have been rejected under 35 USC 103(a) over Levinson et al in view of Lindner et al and Szumer et al.

The invention in general is directed to a level comprising a body produced by injection molding of thermoplastic material, the body having at least one recess for a position sensor such as a bubble level. Levels of this type are known in the art, but have a disadvantage in that the plastic material is subject to distortion, resulting in measurements which are not as precise as desired.

The object of the invention is therefore to provide a plastic level which makes possible greater level lengths, but with adequate stiffness and greater measuring accuracy and without an expensive manufacturing process. To obtain these objects, the invention provides a reinforcing insert of a fiber reinforced plastic which is over-molded by the thermoplastic material in at least some areas, the reinforcing insert being homogeneously or materially connected to the body of the level.

In this way a plastic-body level is obtained which can exceed the customary lengths, but without any loss in measurement accuracy. This results from the reinforcing insert which preferably extends in the longitudinal direction of the level body and made of a fiber reinforced plastic which is over-molded by the thermoplastic material of the level body.

Levinson et al relates to a pocket level consisting of two dismountable halves made of thermoplastic material, as disclosed at column 2, lines 46-48. It is possible to insert between the halves an inverted, generally T-shaped cross-section strut 47 (column 2, lines 49-50), where the horizontal member 48 of the T-shaped insert can be designed in a channel-like manner 51 in order to house a magnetic strip 52 which is a leveling surface (see Fig. 4 and column 2, lines 54-55).

Insert 47 is neither homogeneously nor materially joined to the level body consisting of the two halves, nor is the insert 47 made of a fiber reinforced plastic material. Instead, insert 47 is a ferromagnetic material for holding a magnetic strip 52 in channel 51. Hence, the features characterizing the claimed invention are neither disclosed nor suggested by Levinson et al.

The Office Action admits that Levinson et al does not disclose the fiber reinforced plastic level body and insert, but has cited Lindner for a disclosure of a liquid level having a reinforced insert made of injected plastic, and reinforced thermoplastic in some areas, and has cited Szumer et al for a teaching of a level having a bubble vial insert made of a plastic such as glass fiber to increase rigidity.

Lindner et al relates to a liquid level vial and a method for making the vial. The vial 10 is designed to be breakage resistant, and Lindner et al provides marker rings 37, 39 which are injection molded into the vial body when the vial is molded. This can be seen in Figures 4 and 5. Marker rings 37 and 39 are bonded to the plastic body of the vial (see column 6, lines 8-9) and the rings extend vertically to the longitudinal axis of the vial.

There is no suggestion here for one of ordinary skill in the art to reinforce a level body made of plastic with a reinforcing insert over-molded in at least some areas. The

vial body and the marker rings of Lindner et al are not meant to reinforce the level body itself and there is no suggestion to user marker rings in the Levinson et al body. In any event, Levinson et al would have to be completely redesigned to utilize such marker rings since the level body comprises two halves.

Szumer et al discloses an extension set for spirit levels. In order to enlarge the measuring base, the level body 1 is surrounded by clamps 11, for selectively clamping the spirit level on extenders extenders 9. The extenders are preferably formed of extruded aluminum (column 3, line 14). The clamps themselves can be made of reinforced polyamide, nylon, ABS and the like (column 3, lines 25-27), but there is no disclosure of the material used to make up the level body. One can assume, however, that this is also an extruded aluminum double-T profile body, since the measuring base of the level body would normally be formed of the same material as the measuring base of the extenders.

The fact that the clamps may be formed from fiber reinforced plastic material provides no suggestion to produce a level body of a thermoplastic material with reinforcing inserts running in the longitudinal direction, where an insert formed of fiber reinforced plastic is materially connected with the level body at least in some areas.

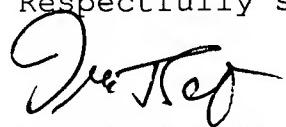
Thus, the cited art does not disclose or suggest the invention as recited in Claim 17. Rather, Levinson et al makes clear that one of ordinary skill in the art would only reinforce a level body consisting of a plastic material with a separate insert made of a different material from the level body. There is, further, no disclosure or suggestion of forming reinforcing inserts made of carbon fiber or glass fiber reinforced plastic as recited in Claim 18, or of the specific arrangement of reinforcing inserts as recited in

Claim 19. The remaining cited references do not disclose or suggest replacing the insert of Levinson et al with an overmolded plastic insert materially attached at some area, since Lindner et al discloses only a reinforced bubble vial, and Szumer et al discloses only a detachable metal strut.

Withdrawal of this rejection is accordingly requested.

In view of the foregoing amendments and remarks, Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



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